



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,345	02/18/2004	Kenji Kojima	9319A-000688	9215
27572	7590	08/08/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			GOLDBERG, BRIAN J	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

67

<b>Office Action Summary</b>	<b>Application No.</b> 10/781,345	<b>Applicant(s)</b> KOJIMA, KENJI	
	<b>Examiner</b> Brian Goldberg	<b>Art Unit</b> 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 4 is objected to because of the following informalities: Claim 4 is a direct word-for-word repetition of claim 3 and is therefore unnecessary. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kuronuma et al. (US 5831646).
2. Regarding claim 1, Kuronuma et al. disclose "A droplet jetting apparatus comprising: a main body (1206 of Fig 16 and col 7 ln 29); a work placing portion on which a work is to be placed (12 and 13 of Fig 1); a head unit having at least one droplet jetting head for jetting droplets of a liquid to be used onto the work (1, 1C, 1M, 1Y, 1B of Fig 1); a head unit support for supporting the head unit (16 of Fig 1); a head unit moving mechanism for moving the head unit support in a horizontal direction with respect to the main body (17 and arrow B of Fig 1); a head driving control section for controlling driving of the at least one droplet jetting head (26 of Fig 1); a control unit for controlling the head driving control section, the control unit storing drawing pattern data including a plurality of patterns (col 7 ln 37-45); first transmission means which connects the control unit to the head driving control section for transmitting the drawing pattern data from the control unit to the head driving control section (see Fig 3 and col 8 ln 11-

Art Unit: 2861

13); and second transmission means which connects the head driving control section to the at least one droplet jetting head for transmitting the drawing pattern data from the head driving control section to the at least one droplet jetting head (see Fig 3, col 8 ln 11-12 and col 2 ln 50-53); wherein the droplet jetting apparatus is constructed so as to form a predetermined pattern in the plurality of patterns onto the work by jetting droplets to the work from the at least one droplet jetting head while moving the work placing portion and the head unit relatively to each other (col 6 ln 66 – col 7 ln 28 and col 2 ln 23-29); characterized in that the head driving control section (26 of Fig 1) is provided on the head unit support (16 of Fig 1) so that the head driving control section is moved in a horizontal direction with respect to the main body by the head unit moving mechanism (17 of Fig 1 and see Fig 3).”

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuronuma et al. in view of Fukushima et al. (US 5444468).

5. Kuronuma et al. disclose “wherein the head unit moving mechanism (17 of Fig 1) moves the head unit support in an X-axis direction (arrow B of Fig 1), the X-axis direction being another horizontal direction perpendicular to the Y-axis direction” and “one of the X-axis and Y-axis directions is defined as a main scan direction and the

Art Unit: 2861

other is defined as a sub scan direction, and wherein the droplet jetting apparatus is constructed so as to form the predetermined pattern onto the work by moving the work placing portion and the head unit relatively (Fig 1, col 6 ln 66 – col 7 ln 28 and col 2 ln 23-29).” Thus Kuronuma et al. meet the claimed invention except “a Y-axis direction moving mechanism for moving the work placing portion in a Y-axis direction, the Y-axis direction being a horizontal direction with respect to the main body.”

6. Fukushima et al. teach providing “a Y-axis direction moving mechanism for moving the work placing portion in a Y-axis direction, the Y-axis direction being a horizontal direction with respect to the main body (101 and arrow A of Fig 4).” It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide a moving mechanism to move the work placing portion in one horizontal direction. One would have been motivated to so modify Kuronuma et al. for the benefit of forming an image of a uniform image quality as stated by Fukushima et al. by allowing the work placing portion to move in a horizontal direction.

### ***Response to Arguments***

7. Applicant's arguments filed 5/15/06 have been fully considered but they are not persuasive. Applicant argues that the control unit of Kuronuma et al. is not on the carriage (head unit support), but it is the head driving control section that is being claimed on the head unit support. Just as applicant is claiming a head driving control section separate from a control unit, Kuronuma et al. similarly discloses a head driving

Art Unit: 2861

control section (26) separate from a control unit (34), with the head driving control section provided on the head unit support (16).

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on 571-272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**Brian Goldberg**  
AU 2861  
July 27, 2006



**Vip Patel**  
Supervisory Examiner  
AU 2861

